the control signal from the micro control part 30. As a result of the comparison, if the system frame number SFNcur of current time point is identical to the transmission time point SFNtx of a first element in the queue of the RSIMs, the micro control part 30 transfers the RSIM to the second signal processing part 50. The second signal processing part 50 makes signal processing required for transmitting the RSIM to be transmitted. When one RSIM is transmitted to the air, the micro control part 30 in the base station calculates the next transmission time point SFNtx of the transmitted information block segment, and produces a new queue of the RSIMs by using the next transmission time point SFNtx and the preset queuing algorithm again.

[026] FIG. 3 illustrates a diagram showing an example of a queue of system RSIMs produced according to a queuing algorithm of the present invention.

[027] Referring to FIG. 3, the queuing algorithm is a system information broadcasting algorithm for calculating the transmission time points SFNtx in advance, and queuing all RSIMs in the order of earliest transmission to the air with reference to the current time point. A process for implementing the system information broadcasting function at the base station will be explained.

[028] Upon reception of the system information update message from a RNC, the base station stores all RSIMs generated by information block segments contained in the message and scheduling parameters. Then, the base station calculates an initial transmission time point SFNtx of respective RSIMs by applying the following equation (3).

[Equation 3]

tempSFNtx = Round (modify_time / IB_REP) * IB_REP + SEG_POS

if tempSFNtx $\leq$ modify_time

then tempSFNtx = tempSFNtx + IB_REP

SFNtx = tempSFNtx % 4096

[029] The transmission time point value SFNtx is calculated with reference to the modify_time, and represents a transmission time point each of the RSIMs is to be transmitted to the air. The modify_time is information contained in the system information update message from the RNC, and represents a time point at which transmission of the information block segments contained in the message to the air is initiated according to given parameters.

[030] In the meantime, the micro control part 30 in FIG. 2 produces the queue of the RSIMs for all RSIMs generated by information block segments stored in the memory 20 by using the transmission time point value SFNtx calculated according to equation (3). The queue of the RSIMs contains addresses of the RSIMs, and first transmission time point values $SFNtx(i_{first})$ with reference to a current time point for the RSIMs.

[031] Then, the base station takes a first element, the RSIM to be transmitted at first in view of the scheduling from the queue of the RSIMs at preset fixed time intervals (20ms in this embodiment) with reference to the current time point. As explained, the first element contains addresses of the RSIMs, and first transmission time point values $SFNtx(i_{first})$ with reference to a current time point for the RSIMs.

[032] In the meantime, if the SFNcur, the current time point, is identical to the transmission time point value SFNtx of the first element in the queue of the RSIMs, the micro control part 30 in the base station transfers the RSIM to the air. If the SFNcur, the current time point, is not identical to the transmission time point value SFNtx of the first element in the queue of the RSIMs, the micro control part 30 does not transfers the RSIM to the air.

[033] In a case the RSIM is transmitted to the air, the micro control part 30 calculates the next transmission time point SFNtx of the RSIM according to the following equation (4), replaces the prior transmission time point value SFNtx with the calculated the

next transmission time point value, and produces the queue of the RSIMs, newly. In other words, the micro control part 30 inserts the calculated next transmission time point value SFNtx to the RSIMs, newly.

$$SFNtx(i+1) = (SFNtx(i) + SEG\text{-}POS) \% 4096 \quad (0 \leq i \leq M-1) \text{ -------------------------- } (4)$$

Where, 'i' denotes (I)th SFNtx, and 'M' denotes a greatest value that satisfies IB-REP*n<4096.

[034] As explained, if the SFNcur, the current time point, is not identical to the transmission time point value SFNtx of the first element in the queue of the RSIMs, the components in the FIG. 2 make no operation.

[035] In this instance, the micro control part 30 in FIG. 2 calculates first transmission time point values $SFNtx(i_{first})$ of all RSIMs generated by information block segments contained in the received system information update request message, and calculates the next transmission time point values SFNtx(i) of the RSIM generated by the received information block segments at 20ms intervals.

[036] Referring to FIG. 3, the information blocks represents the RSIMs generated by the information block segments stored in the memory 20, i.e., a channel card, and elements of the queue of the RSIMs includes the RSIM, transmission time points of the RSIMs, and scheduling parameters of the RSIMs. That is, elements of the queue of the RSIMs have transmission time points SFNtx calculated according to the scheduling parameters SIB_REP values and SIB_POS values of information block segments the RSIMs designate. In the queue, the elements are always queued such that the information block segments that are required to be transmitted to the air at first are positioned in a front part of the queue.

[037] The base station stores the RSIMs generated by the information block segments in the memory (or channel card) after the system information update message is